

Please amend the claims as follows:

1. (Currently Amended) A composition comprising separated calcium phosphate platelets which exhibit at least one of a monetite, predominant monetite or deficient apatite structure and wherein the calcium phosphate platelets have a length of between 250 nm and 800 nm.
2. (Currently Amended) The composition comprising separated calcium phosphate platelets according to claim 1, wherein the calcium phosphate platelets have a length of between 250 nm and 400 nm.
3. (Currently Amended) The composition comprising separated calcium phosphate platelets according to claim 1, wherein the calcium phosphate platelets have a thickness of between 1 nm and 40 nm.
4. (Currently Amended) The composition comprising separated calcium phosphate platelets according to claim 3, wherein a plurality of the platelets have a monetite structure exhibiting a chemical shift of between 1.4 ppm and 1 ppm as measured by phosphorus-31 MAS ~~NMR~~NMR.
5. (Currently Amended) The composition comprising separated calcium phosphate platelets according to claim 3, wherein a plurality of the platelets have an apatite structure exhibiting a chemical shift of between 3 ppm and 3.4 ppm, measured by phosphorus-31 MAS NMR.
6. (Currently Amended) The composition comprising separated calcium phosphate platelets according to claim 1, wherein the calcium phosphate platelets have a calcium to phosphorus molar ratio of between 0.95 and 1.4.
7. (Currently Amended) The composition comprising separated calcium phosphate platelets according to claim 3, wherein the calcium phosphate platelets have a calcium to phosphorus molar ratio of between 1.25 and 1.67.

8. (Currently Amended) An aqueous dispersion comprising separated calcium phosphate platelets according to claim 3.

9. (Currently Amended) A colloidal dispersion comprising separated calcium phosphate platelets according to one claim 3 in an aqueous solution containing a dispersing agent.

10. (Currently Amended) A method for preparing separated calcium phosphate platelets which exhibit at least one of a monetite, predominant monetite or deficient apatite structure wherein the calcium phosphate platelets have a length of between 250 nm and 800 nm comprising the steps of:

- i) preparing a solution of calcium salt and adjusting the pH of the solution to a selected value of between 4 and 6;
- ii) adding a phosphate solution to the solution obtained in step i) over a period of time of between 30 minutes and 4 hours, so as to obtain a calcium to phosphorus molar ratio of between 1 and 2.5, wherein the pH is maintained constant at a selected value of between 4 and 6;
- iii) heat treating the solution obtained in step ii) at a temperature of between 50°C and 95°C;
- iv) separating the calcium phosphate platelets formed from the solution obtained in step iii);

wherein in at least one of steps i) or ii), the solutions further comprise ammonium ions.

11. (Currently Amended) A method for preparing separated calcium phosphate platelets which exhibit at least one of a monetite, predominant monetite or deficient apatite structure wherein the calcium phosphate platelets have a length of between 250 nm and 800 nm comprising the steps of:

- i) preparing a solution of calcium salts and adjusting the pH to a selected value of between 4 and 6;
- ii) adding a phosphate solution to the solution obtained in step i) over a period of time of between 30 minutes and 4 hours, so as to obtain a calcium to phosphorus

- molar ~~ratio~~ ratio of between 1 and 2.5, wherein the pH is maintained constant at the selected value of between 4 and 6;
- iii) heat treating the solution obtained in step ii) at a temperature of between 50°C and 95°C;
  - iv) adjusting the pH of the solution obtained in step iii) to a value of between 8 and 9.5; and
  - v) separating the calcium phosphate platelets formed from the solution obtained in step iv);

wherein in at least one of stages i) or ii), the solutions further comprise ammonium ions.

12. (Currently Amended) The method according to claim 10, wherein the solution of calcium salts salt is a  $\text{CaCl}_2$  or  $\text{Ca}(\text{NO}_3)_2$  solution.

13. (Currently Amended) The method according to claim 10, wherein the concentration of calcium salts salt in the solution of calcium salt is between 1M and 2.5M.

14. (Previously Presented) The method according to claim 10, wherein the phosphate solution is a solution of  $(\text{NH}_4)_2(\text{HPO}_4)$  or  $(\text{NH}_4)(\text{H}_2\text{PO}_4)$ .

15. (Previously Presented) The method according to claim 10, wherein the calcium to phosphorous molar ratio is between 1.3 and 1.7.

16. (Cancelled)

17. (Currently Amended) The ~~method~~ method according to claim 10, wherein the temperature of the heat treatment in step iii) is between 60°C and 90°C.

18. (Cancelled)

19. (Previously Presented) The method according to claim 11, wherein the solution of calcium salts is a  $\text{CaCl}_2$  or  $\text{Ca}(\text{NO}_3)_2$  solution.

20. (Previously Presented) The method according to claim 11, wherein the concentration of calcium salts in the solution of calcium salts is between 1M and 2.5M.

21. (Previously Presented) The method according to claim 11, wherein the phosphate solution is a solution of  $(\text{NH}_4)_2(\text{HPO}_4)$  or  $(\text{NH}_4)(\text{H}_2\text{PO}_4)$ .

22. (Previously Presented) The method according to claim 11, wherein the calcium to phosphorous molar ratio is between 1.3 and 1.7.